

(19)



JAPANESE PATENT OFFICE

PATENT ABSTRACTS OF JAPAN

(11) Publication number: 06267998 A

(43) Date of publication of application: 22.09.94

(51) Int. Cl.

H01L 21/36
H01L 21/203
H01L 31/10

(21) Application number: 05053516

(71) Applicant: FUJITSU LTD

(22) Date of filing: 15.03.93

(72) Inventor: SUGIYAMA IWAO

(54) SEMICONDUCTOR SUBSTRATE WITH EPITAXIAL CRYSTAL

crystal etc., on the Si substrate 12 of a (115) face.

(57) Abstract:

PURPOSE: To prevent a twin crystal generation by a method wherein a compound semiconductor crystal is epitaxially-grown on the (331) face of the (112) face on a semiconductor substrate with the (115) face on both surfaces.

CONSTITUTION: On a substrate pedestal 13 provided with a heating heater 14 within a vessel 11 of a molecular ray epitaxial growing device, a Si substrate 12 having a (115) crystal surface is arranged, and the substrate 12 is heated in a high vacuum of 10^{-8} to 10^{-10} Torr at a temperature 850 to 1000°C for 10min. to clean the surface thereof. Next, the substrate 12 is held at 600°C to open a shutter 21 arranged on a Te melting pot 15 to irradiate it with Te molecular rays for 3 min. Next, the substrate 12 is held at 320°C or 230°C to open the shutter 21 to emit CdTe molecular rays, so that an epitaxial crystal of CdTe can grow up to a desired thickness. Thus, a CdTe crystal 17-1 of a (331) face or a CdTe crystal 17-2 of a (112) face can be formed without causing crystal defects such as a twin

COPYRIGHT: (C)1994,JPO&Japio

